THE TWO R'S IN HAUSA[1]

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Hausa has two different R sounds, not distinguished in writing, neither in the standard Roman orthography nor in *ajami* (Hausa written in Arabic script). One is a flap, here indicated /ɾ/, as in **ɾana** 'sun'; the other is a trill or tap, here indicated /r̄/, as in **r̄ibà** 'profit'.[2] The phonetic difference between the two R's was described by Bargery some forty years ago in the introduction to his monumental dictionary: 'There are two quite distinct sounds of R in Hausa. There is the ordinary rolled or trilled **r̄** . . . the other R is a one-tap or flapped **ɾ** which has a very l-like sound, being produced by raising the tip of the tongue and curling it back until it has reached a point considerably farther back than is the case when the letter l is to be pronounced. The tongue is then brought down sharply without vibration against the teeth-ridge' (1934, xxii-xxiii). Subsequent scholars have on the whole concurred with Bargery's description. However, using instrumental techniques, Ladefoged (1964) came up with somewhat different findings. 'Most authorities . . . state that the difference between these two sounds is that one is a trill and the other is a flap. The nearest I can come to agreeing with this is to say that the first sound [i.e. r̄] is a trill which has a statistical probability of consisting of only one tap' (p. 30). He goes on to make the following startling observation: 'The acoustic similarity is obvious. Indeed I have not been able to find any acoustic difference between the two sounds.'

While Ladefoged's statements have the authority of instrumental evidence behind them, they cannot be accepted as the final word. His description is based on an analysis of the R's in the oft-cited minimal pair, **bɑɾà** 'servant' vs. **bɑr̄à** 'begging'. In the specific environment involved – intervocalic preceded by a short vowel – the 'trilled' r̄ does tend to be a tap almost indistinguishable from the flap. But it is not correct to extrapolate from this one very specific environment to a general statement about the R's in all positions. The likelihood of r̄ being actually trilled (rather than being just a quick tap), and thus auditorily and acoustically distinct from the flap, increases markedly as one moves from intervocalic position preceded by a short vowel, to intervocalic preceded by a long vowel, to word initial position, to

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[2] Hausa examples are transcribed according to the standard orthography, with the following modifications: (*a*) short vowels in open syllables are marked by a cedilla (long vowels and vowels in closed syllables are unmarked); (*b*) low tone is marked by a grave accent, falling tone by a circumflex (high tone is unmarked); and (*c*) the two R's are explicitly marked as indicated in the text. In quoting from other sources, I have standardized the transcriptions to conform to the system adopted here.

syllable final position within a word, and then to word final position. The production of r̃ as a trill as opposed to a tap is best exemplified by the formal speech of poets, public announcers, radio broadcasters, etc.; but even in ordinary, everyday speech, non-intervocalic r̃, at least, is commonly trilled and is always 'trillable'. Whether r̃ is fully trilled or not, the difference between the two R's is quite evident and easily recognizable by the linguist, once he has become attuned to the distinction. In syllable final position, for example, the flap has a vocalic offglide not shared by the trill. Earlier scholars, who were not aware of the two R's, thus often transcribed -ɾC- as -ɾVC-, but -r̃C- as -ɾC-; compare *garike* (= **garkè**) 'cattle pen' and *furufura* (= **furfuɾa**) 'grey hair' with *darni* (= **dàr̃ni**) 'cornstalk fence' and *berkono* (= **bàr̃kòno**) 'pepper', taken from Schön (1876). In initial position and in intervocalic position preceded by a long vowel or a diphthong, the l-like quality of the flap distinguishes it from the trill, which sounds R-like, however many taps it may have.

While Bargery's was the first Hausa dictionary to mark the difference between the flap and the trill, the existence of the two R's was not a Bargery discovery. A decade before the publication of the *Dictionary*, Taylor (1923), James and Bargery (1925), and Klingenheben (1927/28, based on his 1920 dissertation) had already commented on the two R's. Even earlier, Meinhof (1912, 58 n) had noticed that the Hausa assistant in Hamburg had two different kinds of R in his pronunciation. However, the credit for the scientific discovery of the two R's in Hausa belongs, as far as I have been able to determine, to Prietze (1907) – or, more correctly, to Prietze's scribe/assistant in Cairo, Alhaji Musa. According to Prietze, Alhaji Musa, a Hausa from Damagaram, made a distinction between the two R's in writing Hausa, using the Arabic letters *rā* (ر) for r̃ and *ḍād* (ض) [called *lodi* in Hausa] for ɾ. As illustrated in Prietze (1908), Alhaji Musa's transcription consistently and correctly reflected the r̃/ɾ contrast of the spoken language, e.g. رَكْ /**r̃ak**/ 'exactly', vs. ضَنَ /**ɾana**/ 'sun'. Since this distinction is not normally made in *ajami*, and since Prietze had not noted the difference between the R's in his earlier publications (based on work with a Kano man in Tunis), it must have been Alhaji Musa who discovered the phonological contrast between ɾ and r̃ in his own language and brought it to the attention of Prietze, and not vice versa.

Once the existence of the two R's was known, the next step was to determine their status. Taylor (1923) thought that the difference between the two might be dialectal, while James and Bargery (1925) and Klingenheben (1927/28) claimed that the two sounds were essentially in complementary distribution and thus could be treated as members of the same phoneme. Bargery (1934, xxii-xxiii), however, later reversed his opinion. 'There are two quite distinct sounds of R in Hausa . . . That this [flapped] R is quite a distinct phoneme is clear from the fact that the difference in pronunciation of the R is the only way, apart from context, in which, for instance, the word **bar̃a** 'begging', and **bara** 'a servant' can be distinguished . . . This conclusion has been arrived at only after prolonged investigation, and is at

variance with that set forth in [James and Bargery, 1925].' The notion that the two R's might be allophones of the same phoneme was subsequently dropped, and all scholars since have accorded /ɾ/ and /r̃/ the status of separate phonemes (e.g. Abraham, 1959b; Greenberg, 1941, 1947; Hodge, 1947; but cf. Gregersen and Muhammed, 1975).

Despite the acknowledged phonemic status of the two R's, Hausa scholars have continued to treat the distinction between them as marginal, not on a par with the distinction, for example, between the glottalized and non-glottalized consonants or between the long and short vowels. Either explicitly or implicitly – by using the same orthographic symbol for the two R's – scholars have tended to ignore the contrast or play down its importance. 'The distinction [between the two R's] is not important and I do not mark it either here or in my Dictionary' (Abraham, 1959a, 90). 'Unlike many who have written on Hausa phonology, I am not in the least worried by the distinction between the flapped and the trilled R of Hausa' (Parsons 1970, 275 n); 'though organically quite different sounds, their distinction is rarely significant' (Parsons 1950, 527). Turning from overt statement to actual practice, one finds an almost random pattern in the way the R's are treated in works on Hausa. The FSI teaching manual (Hodge and Umaru, 1963) marks the difference between the two R's, but the most recent American Hausa course (Cowan and Schuh, 1976) does not. Kraft and Kraft (1973) do, but Kraft and Kirk-Greene (1973) do not. Jungraithmayr and Möhlig (1976) do, but Brauner and Ashiwaju (1965) do not. The dictionaries of Bargery (1934) and Newman and Newman (1977) do, but those of Abraham (1962) and Skinner (1968) do not. Among Hausaists, Gouffé (1965, etc.) is probably unique in the consistency with which he has carefully distinguished between the R's in all of his linguistic works.

The reasons given, or tacitly assumed, for not distinguishing between the two R's in scientific or pedagogic works on Hausa can be assigned to one of two arguments: (1) The choice of ɾ vs. r̃ is predictable (on etymological or positional grounds) and thus need not be marked, or (2) The choice of ɾ vs. r̃ is unpredictable (due to free variation or dialectal variation) and thus cannot be marked.

The predictability argument rests on the notion that ɾ and r̃ are more or less in complementary distribution. The basis of the presumed complementarity was already described by Klingenheben (1927/28, 278) a half century ago: 'Über das Vorkommen von ɾ und r̃ im Hausa . . . sei hier nur bemerkt, das ɾ die Form dieses Hausa-R im Silbenanlaut bzw. in der Gemination in einheimischen Wörtern, r̃ dagegen einerseits die Form in Fremdwörtern, anderseits in einheimischen Wörtern die im Silbenauslaut ist.' The statement by Kraft and Kirk-Greene (1973, 8) is only a slight modification of Klingenheben's. 'The majority of Hausa speakers employ a trilled R before most consonants (except labials and velars [sic]) . . . in final position . . . regularly in words borrowed from other languages . . . and in a relatively small number of other words. The flap R occurs in most other contexts.' Gregersen and Muhammed (1975, 415) conclude: 'With very few (if any) excep-

tions, ɾ and ɾ̃ would be in non-contrastive and complementary distribution if loan-words could be separated from the rest of the vocabulary.'

The presumed complementarity rests, however, on an incomplete and partially inaccurate representation of the facts. To describe the distribution of ɾ and ɾ̃ more clearly, let me treat four distinct phonological environments in turn, these being (*a*) word initial, (*b*) intervocalic, (*c*) word final, and (*d*) syllable final within a word.[3]

(*a*) In initial position, both ɾ and ɾ̃ occur, but ɾ is by far the more common. Phonetically, the flap is peculiar, which is why many scholars (e.g. Prietze, Klingenheben, Bargery, Gouffé) have chosen to mark this R with a special symbol or diacritic; from a strictly Hausa point of view, however, the flap is clearly the unmarked, native R. Initial ɾ̃ is generally limited to words of identifiably foreign origin, mostly loans from Arabic, but also from other languages such as Kanuri, Fulani, and English, e.g. **ɾ̃ibà** 'profit', **ɾ̃afàni** 'maternal uncle'. Seldom commented on, but see Abraham (1959b, 137), is the fact that ɾ̃ also occurs initially in a large number of non-loanwords that form a phono-semantic class characterized by the idea of intensive or violent action, e.g. **ɾ̃afkà** 'to hit (with a stick)', **ɾ̃utsà** 'to stab'. In the same vein, it is usually the trill that occurs initially in ideophones, e.g. **ɾ̃au** 'sharp (pain)', **ɾ̃ìgis** 'heat (of fire)', **ɾ̃ąkaf** 'completely'; although ɾ also occurs, e.g. **ɾụku-ɾụkù** 'huge'.

(*b*) In intervocalic position, one can start with the same description just given for initial position, i.e. ɾ is the norm while intervocalic ɾ̃ is essentially limited to loanwords, ideophones, etc. The problem here is that the trill also occurs in words that are *not* marked etymologically or phono-semantically, e.g. **bąɾ̃à** 'begging' (cf. **bąɾà** 'servant'); **koɾ̃è** 'green' (cf. **koɾè** 'chase away'); **beɾ̃à** 'maiden'; **ɓeɾ̃a** 'mouse'; **tąɾ̃ą** 'nine'. Greenberg has argued, probably correctly from a historical point of view, that 'the occurrence of ɾ̃ . . . in other than syllable final position may be considered an indication of probable foreign origin' (1960, 207).[4] Nevertheless, the significant fact about 'presumed' loanwords such as the above is that neither the linguist nor the native Hausa speaker can now identify them as such. As a result, ɾ and ɾ̃ directly contrast in intervocalic position in what synchronically must be considered native Hausa words. While the incidence of the contrast is small, it increases considerably when one takes noun plurals into account in addition to

[3] In the case of abutting consonants, I am only concerned about the R occurring as C_1 since ɾ does not occur as C_2 in Kano Hausa. The sequence ___Cɾ___, which was historically present, has been eliminated either by the weakening of the C_1 to a semivowel, e.g. **sauɾo** 'mosquito' < ***sabɾo**, or by the insertion of an epenthetic vowel, e.g. **kụtụɾu** 'leper' < ***kutɾu**.

[4] According to Greenberg (1960, 207), 'the flapped ɾ typically occurs in words inherited from Proto-Chad and Proto-Afroasiatic and corresponds in general to R sounds in other languages of the same family.' Greenberg is correct about the 'nativeness' of words with ɾ but the phonological correspondence suggested by him is not valid. As I have demonstrated elsewhere (Newman, 1970), Proto-Chadic *r went to y in Hausa and thus the present-day Hausa ɾ must be derived from some other consonant(s) such as l or ɗ.

citation forms, e.g. **gąřèmąni**, pl. of **gàřma** 'large hoe' (cf. **gąrèwąni**, pl. of **garwa** 'water tin'); **zą̀řàta**, pl. of **zařtò** 'saw' (cf. **fą̀ràuta**, pl. of **farcè** 'fingernail').

(*c*) In final position, the situation is straightforward: only **ř** occurs. It occurs both in loanwords, where it often corresponds to /l/, e.g. **tebùř** 'table', and in native words as a positional variant of some other alveolar consonant, e.g. **kâř** (< **kądà**) 'do not'; **-ř** (< **tą**) 'fem. linker'; **mâř** (< **mąsà**) 'to him', and **bař** (< **bą̀rì**) 'to leave'.

(*d*) In syllable final position within a word, **r** and **ř** both occur. Klingenheben (1927/28) erred in thinking that only the trilled **ř** was allowed in that environment. Parsons (1955, 395 n) and Kraft and Kirk-Greene (1973, 8) claim that the trill is only required if the abutting consonant is an alveolar (implying that the R should be a flap if the following C is not an alveolar); but this is not correct either. The facts, as a study of Bargery (1934) or Newman and Newman (1977) shows, are as follows. Before labial, palatal, and velar consonants, the flapped **r** and the trilled **ř** both freely occur, e.g.

girma	largeness	**gàřma**	plough, hoe
gìrba	to reap	**hàřba**	to shoot
farcè	fingernail	**sařcè**	to comb out
gurgu	lame person	**fařgą**	to realize

Before *some* alveolar consonants, namely **t**, **d**, **ɗ**, and **n** (but for /t/, see comments following), only **ř** occurs, e.g. **kùřtu** 'inkpot', **bařdǫ** 'dove', **muřɗà** 'to twist', **kařnụkà** 'dogs' (cf. the singular **kà̀re** with the flap).

There are examples of **r** before /t/, but these seem to be limited to morphologically derived words where the flap occurs in intervocalic position in the underlying form, e.g. **gyârta** 'to repair' < **gyarà** (with equivalent meaning); **gajàrta** 'to shorten' and **gajartà** 'shortness' < **gà̀jere** 'short'; **kụturtà** 'leprosy' < **kụtụru** 'leper'. In such cases, morphological considerations are clearly remaining strong enough to override what should be a general phonological rule.[5] However, once the native speaker turns his attention away from the morphological complexity of such words and treats them as basic forms, the flap is replaced by the phonologically required **ř**, e.g. **gyàřtai** 'calabash mender' (related to **gyarà** 'to repair'), cited in Newman and Newman (1977) with a trill, but earlier in Bargery (1934) with a flap.

Apart from the question of /t/ just discussed, it is still not true that only **ř** occurs before alveolar consonants. Before the alveolar fricatives /s/, /z/, and /ts/,[6]

[5] For the speaker from Katsina described by Hodge (1947), the phonological rule was paramount, resulting in an alternation between derived forms such as **gyařtà**, **gąjàřtąkà**, and **kụturtà** containing a trill preceding /t/, and the corresponding underlying forms which contained a flap, as in Kano.

[6] The consonant represented by **ts** in standard Hausa orthography is phonetically an ejective fricative [s'], which synchronically can be considered as the glottalized counterpart of /s/. Historically, it comes from a glottalized palatal affricate c', which still survives in northern and western Hausa dialects.

both ɾ and r̃ occur and the flap is, if anything, the more common, e.g.

darsà	pour in drops	**mar̃sà**	medium quality kolanuts
murzà	rub between palms of hands	**gwar̃zo**	manly person
wartsàke	become well	**zar̃tsi**	brackishness

Instead of looking at the question of ɾC vs. r̃C in terms of the nature of the second C, one can focus on the R's themselves and try to explain the contrast that occurs on etymological grounds. The well-known fact here is that 'rolled r̃ is always used when a dental sound has been dissimilated into R' (Abraham 1959b, 137),[7] e.g. **fir̃fìtą**, intensive of **fìtą** 'to go out,; **kar̃kàɗa**, intensive of **kąɗà** 'to beat'; **ƙar̃ƙąshi** 'underneath' < **ƙąsa** 'earth'; **mar̃mązą**, intensive of **mązą** 'quickly'. In some cases the etymologically prior alveolar obstruent underlying a surface r̃ can also be ascertained for non-derived forms, either because of co-existing dialectal forms or because of morpheme alternants, e.g. **càr̃bi** 'rosary' (= **càzbi**), **far̃ke** 'itinerant trader' (pl. **fątàke**). In the case of other words with syllable final r̃, we can assume that many (or most) came from a form containing an alveolar obstruent and that this T > r̃ change (plus loanwords) accounts for the ɾ/r̃ contrast in this position. Nevertheless, even if we as linguists were to know the true history of all Hausa words now containing syllable final r̃, we could hardly claim that native Hausa speakers have and make use of this knowledge.

We can now summarize the situation with regard to the distribution of ɾ and r̃ as follows. In final position there is no contrast; only r̃ occurs. In initial position both ɾ and r̃ occur but essentially non-contrastively if one allows 'environment' to be specified in non-phonological terms, i.e. r̃ occurs in loanwords and in phono-semantically marked native words, ɾ occurs elsewhere. In intervocalic position ɾ and r̃ both occur and are in direct though quantitatively limited contrast. The contrast is probably due to the 'nativization' of very early loanwords containing intervocalic r̃. In syllable final position followed by an abutting consonant, both R's occur in normal native words except before **n**, **d**, **ɗ**, and (with special exceptions) **t**, where only r̃ occurs.

Taken as a whole, the facts show that the tendency to disregard the ɾ/r̃ distinction on the grounds of non-contrastive complementary distribution is not justified. Even if one is permitted to ignore loanwords, which, although not objectionable in theory, is of questionable validity in the case of Hausa, considering the age and number of loanwords involved (especially those from Arabic), one cannot blithely ignore the fact that ɾ and r̃ occur in direct contrast in at least two normal phonological environments, namely V__V and __C[not alveolar stop]. Ironically, the failure to mark the difference between the R's on the spurious

[7] The T > r̃ change was one of a series of sound changes described by Klingenheben (1927/28) and now commonly referred to as 'Klingenheben's laws'. Klingenheben was wrong, however, in thinking that the change also applied to syllable final ɾ, his examples **saɾki** 'chief' (for **sarki**) and **faɾfaru** 'white (pl.)' (for **farfaru**) being in error.

grounds that they were in complementary distribution has resulted in the failure to discover phonotactic restrictions that actually do exist. An interesting example is the non-compatibility of /l/ and /ɾ/ within a word, a restriction not observable so long as words such as **lùřą** 'pay attention' and **luřu** 'native cloth' were written without discriminating the type of R.

The ambiguous status accorded to the two R's by certain scholars arises from a general misunderstanding of the role of minimal pairs in the phonemic concept. This confusion shows up in Parsons's statement that 'the distinction between the two R's is phonemic in only some half a dozen pairs of words' (1970, 275 n). While it may be true that the number of minimal pairs involving the two R's is small, there is no theoretical requirement that a phonemic contrast be supported by *any* minimal pairs.[8] The real question is whether the difference between **ɾ** and **ř** (or any other 'suspect pair') is positionally specifiable and thus predictable and non-distinctive, or whether it has to be lexically marked. Bargery, the greatest Hausa lexicographer, obviously recognized that the significance of the **ɾ**/**ř** contrast in Hausa went far beyond the number of minimal pairs involved or he would not have gone to the trouble to check and mark every instance of **ɾ** or **ř** in a thousand pages of dictionary entries.

The second reason commonly given for ignoring the distinction between the two R's is that their usage is unpredictable, being subject to great dialectal and individual variation. 'Though many Hausa speakers will maintain a distinction between the two R sounds . . . the processes of linguistic change have so affected the use of these sounds that it is often impossible to predict accurately which R will be employed in a given word' (Kraft and Kirk-Greene, 1973, 8). Parsons similarly claims that 'the two R sounds are often interchangeable' (1970, 275 n), and a recent paper by Gregersen and Muhammed (1975) has as its major aim the documentation of individual variation in the use of the two R's.

Admittedly variation exists, but the emphasis has been all wrong. We know that some dialectal variation exists among Hausa speakers in the use of the R's – but this is also true for other consonants, for gemination, and for final vowel length and tone – and that within the same dialect, individual variation also exists, especially in the pronunciation of recent loanwords. We also know that non-Hausas speaking the language either do not distinguish between the two R's or use them incorrectly. However, the significant fact about the R's which has been totally overlooked is their remarkable stability! While there are some words in which the two R's are interchangeable, the number is exceedingly small in comparison with the number of words in which only one or the other R is allowed. Our recent lexicographic work in Kano (Newman and Newman, 1977) revealed that true standard Hausa speakers

[8] Near-minimal pairs (i.e. pairs where tone and vowel length do not match exactly) are more common, e.g. **hauɾè** 'tusk' vs. **hàuře** 'low place in town wall'; **cɹ̀à** 'raise up' vs. **cìřà** 'sore on eyelid'; **zɹ̀ɾa** 'vacillation' vs. **zàřą** 'planet'. It is interesting to note that with other consonants such as **b** and **ɓ**, exact minimal pairs are just as rare as with the R's (R. M. Newman, personal communication).

agree to a very high degree on which R is required in ordinary words. No one, for example, would accept **ɾɥwa** 'water' with a trilled **r** or **rɥbùtu** 'writing' with a flap.

In addition to this synchronic consensus, it turns out that the choice of **ɾ** vs. **r** in individual lexical items has remained fixed for years and has been little affected by processes of linguistic change. The evidence for the historical stability of the distinction between the R's is provided by the mid-nineteenth century Kano Hausa wordlist found in Koelle's *Polyglotta* (1854). The relevance of the *Polyglotta* to this question is not immediately evident since Koelle did not transcribe Hausa with two different R symbols, but it becomes so under closer examination. One of the striking characteristics of Koelle's transcription of Hausa is his use of the letter *l* in place of *r*, e.g. *lua* for **ɾɥwa** 'water', *lana* for **ɾana** 'sun', etc. Barth (1862–66), who transcribed these words as *rua* and *rana*, made specific reference to this practice: 'Koelle in his Polyglotta gives *lua* and *lana*, but although *r* and *l* are frequently interchanged in the various dialects of the Hausa-language, yet I have never observed such a change in these two words' (vol. 2, p. 149, note 10). Koelle did not, however, represent *r* by *l* in all cases; in some words, he used the letter *r*, e.g. *tara* 'nine', *birni* 'city'. This variation in transcription turns out not to be random or due to some peculiarity of Koelle's hearing. Rather, what Koelle was doing was using *l* to represent the l-like flapped **ɾ** and the letter *r* to represent the normal (by European standards) trilled **r**.[9] Corroboration for this explanation is provided by Koelle's wordlists of Bade and Ngizim, where his use of the letters *l* and *r* also corresponds to the distinction between **ɾ** and **r** in the spoken languages (Schuh, 1975). Internal evidence also shows that the letters *l* and *r* represent **ɾ** and **r**, respectively, as when Koelle writes *kale* 'dog', pl. *karnei*, thereby accurately capturing the morphophonemic alternation between **kàɾe** with the flap and **kàrnai** with the obligatory trill before /*n*/. There can be no doubt but that we have here, to our good fortune, a century-old Hausa wordlist with the difference between the two R's overtly marked. By comparing this list with present-day Hausa forms, we are thus able to see exactly how much lexical change in the R's has taken place over this hundred-year period.

Koelle's Hausa list includes 72 words containing the letter *l*. In 14 of these, the *l* clearly represents the phoneme /l/, e.g. *lafia* (= **lafjyà**) 'health'; *sabulu* (= **sàbɥlù**) 'soap', *takalmi* (= **tàkàlmi**) 'shoe'. In the 58 remaining, the *l* can be presumed to have represented the flapped **ɾ** in the pronunciation of Koelle's informant. Among these words are *lana* (= **ɾana**) 'sun'; *lago* (= **ɾàgo**) 'ram'; *dele* (= **dɑɾe**) 'night'; *kila* (= **kɟɾa**) 'call'; *soulo* (= **sauɾo**) 'mosquito'; *paledshi* (= **faɾcè**) 'fingernail'; *gilima* (= **gɨrma**) 'bigness'. The phonological correspondence between the old and new forms illustrated by the above examples holds for the entire list, i.e. all of the words transcribed by Koelle with an *l* where the *l* represented the flapped **ɾ** are

[9] Koelle also used the letter *l* for the phoneme /l/, thus failing to distinguish it from **ɾ**. However, since the words with 'real' l are mostly Arabic and Tuareg loanwords, they are readily identifiable.

without exception still pronounced with the flap today. In the case of the 28 words in the list containing the letter *r*, presumably representing the trill in the speech of Koelle's informant, all but one are now found with the trill. These include words such as *biar* (= **bìyaɾ̃**) 'five' and *tagarda* (= **tąkàɾ̃da**) 'paper', where the trill occurs in a phonologically predictable position, as well as *tara* (= **tąɾ̃ą̀**) 'nine', *bera* (= **ɓeɾ̃a**) 'mouse', and *borkono* (= **bàɾ̃kòno**) 'pepper', where the trill occurs in environments in which the flap may also occur. The one exception is *yaro* (= **yaɾò**) 'boy'; but this can be ascribed to a transcription error, since the word is written elsewhere in context with the expected *l*: *ina wa yalo kashi* 'I flog a child' (p. 179). Discounting this obvious error, we find that *all* of the words that in Koelle's time contained **ɾ** still contain **ɾ** and that *all* of the words that contained **ɾ̃** still contain **ɾ̃**. These are surprising results, which certainly contradict the oft-repeated claims about the interchangeability and instability of the two Hausa R's. The evidence of historical stability provided by the *Polyglotta* demonstrates forcefully that the second argument given for ignoring the distinction between the two R's, namely that their usage is highly variable and unpredictable, is just as invalid as the first argument based on their supposed non-contrastiveness. Thus there are no linguistic grounds for continuing to deny /**ɾ**/ and /**ɾ̃**/ their rightful status as two distinct, independent entities in the Hausa phonological system.

A final word is in order concerning the historical relationship of the two R's. According to Greenberg (1947, 89), 'the flapped **ɾ** and rolled **ɾ̃** were probably formerly allophones of the same phoneme . . . the representation of Arabic R by Hausa rolled **ɾ̃** under all conditions has given separate phonemic status to the flapped and rolled varieties in present-day Hausa.' Similarly, Gregersen and Muhammed (1975, 417) take for granted that phonemic split was the primary process involved in the development of the two R's. 'As for historical reconstruction, nothing definite can be said as to when the originally allophonic relationship between **ɾ** and **ɾ̃** was phonemicized.' The earlier situation, however, was not so simple. It is certainly not true that **ɾ** and **ɾ̃** were simply allophones of the same phoneme in the period prior to the introduction of loanwords with **ɾ̃**. While [**ɾ̃**] originally may not have been a phoneme in its own right, its allophonic ties were not restricted to the 'other' R. Because of the general rule changing alveolar obstruents to [**ɾ̃**] in syllable final position, [**ɾ̃**] was simultaneously an allophone of **t**, **d**, **ɗ**, **s**, and **z**. Because of the more restricted rule changing **ɾ** to [**ɾ̃**] in word final position or when followed by an alveolar stop (including **n**), [**ɾ̃**] could also have been an allophone of **ɾ**, but this was less common. In most cases, the [**ɾ̃**] that existed before the introduction of **ɾ̃** via loanwords already contrasted with **ɾ**. There is no sense in which the **ɾ̃** that occurs, for example, in **faɾ̃kà** 'to wake up' (< ***faɗkà**) could be said to have ever been an allophone of **ɾ**; from the very beginning, this [**ɾ̃**] would have contrasted with the flap in words such as **fàɾka** 'paramour'. The distinctiveness of [**ɾ**] and [**ɾ̃**], which was due to internal sound changes in a limited environment, became more general with the introduction via loanwords of a new

loan-phoneme /r̃/, which then 'captured' the pre-existing [r̃]'s historically derived from syllable-final alveolars.

The explanation for the close association that now exists between /ɾ/ and /r̃/ is psychological/phonetic, *not* etymological. The auditory/acoustic similarity of the two sounds is well known. While the degree to which the sounds are alike has at times been overstated, Hausa speakers do perceive /ɾ/ and /r̃/ to be similar and do consider them both as types of R. In language acquisition, Hausa children apparently go through a number of stages of trial and error before they correctly learn to distinguish between ɾ and r̃ (Dresel, 1977). Together with the low functional load of the ɾ/r̃ contrast, these psycholinguistic factors perhaps explain why non-native Hausa speakers fail to make the distinction, why the distinction is already beginning to disappear in certain Hausa dialects, and why even native Hausa speakers who consistently distinguish between the two R's seem to have such a low awareness of the difference between them. The usual reference to the splitting of R into two phonemes has diverted our attention from the fact that what we may be witnessing instead is the incipient merger of the two R's into one. The supposedly allophonic relationship of [ɾ] and [r̃] is not so much in the past as in the future! However, the remarkable stability of the two R's from Koelle's time to our own suggests that there must be some linguistic, sociolinguistic, or stylistic factors favoring the preservation of the ɾ/r̃ contrast that we have not yet been able to identify. If so, /ɾ/ and /r̃/ may well resist the tendency to merge and thus persist as two distinct phonemes in Hausa for years to come.

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